

GLYPTOSCELOIDES DENTATUS, A GENUS AND SPECIES OF EUMOLPINAE NEW TO CHILE (COLEOPTERA: CHRYSOMELIDAE)

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ABSTRACT

Study of known South American genera described in the tribe Eumolpini, sections Edusites and Iphimeites strongly suggests that specimens of a previously unidentified species of Eumolpinae represent an undescribed genus and species. The genus *Glyptosceloides* is described as new, from Chile, including the new single species, *G. dentatus*.

RESUMEN.

El estudio de los géneros descritos en la tribu Eumolpini, secciones Edusites e Iphimeites, indica que los especímenes de una especie no identificada hasta ahora representan un género y especie no descritos. Se describe un nuevo género para Chile, *Glyptosceloides*, con una sola especie *G. dentatus*, n. sp.

INTRODUCTION

The Eumolpinae of Chile comprise 11 or 12 genera, including about 27 described species (Askevold, in prep. a & b). At least 5 of these genera are endemic to this narrow country, which is bounded by desert to the north, extreme cold to the south, and the Andes to the east. Two of these genera, *Stenomela* Erichson and *Hornius* Fairmaire, are perhaps the most primitive of the subfamily, making the fauna a rather unique and limited one. Chilean species of genera that are not endemic to Chile are generally single members of groups that are widespread in the Neotropics, some even extending into North America.

Over the years that Jan Bechyné published on Eumolpinae (for references, see Seeno *et al.*, 1976), a large number of genera and spe-

cies were described, rendering study of the Neotropical Eumolpinae a difficult task. It is difficult to rationalize description of new genera in this context. Numerous taxonomic problems persist, well illustrated by the genus *Jansonius* Baly (Askevold & LeSage, 1990). ISA has examined the type specimens of all species of Chrysomelidae described from Chile, and RWF is familiar with almost all New World genera of Eumolpinae. Therefore, despite existing taxonomic confusion among Neotropical eumolpines, we are confident that the genus and species described herein must be distinct from all other Neotropical Eumolpinae, readily recognizable among Chilean and other Neotropical genera.

Terminology of female genitalia follows Lindroth (1957); that for male genitalia follows Askevold & LeSage (1990).

GLYPTOSCELOIDES, Askevold and Flowers,
new genus.

Type species: *Glyptosceloides dentatus*
Askevold and Flowers.

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Figures 1-2: Habitus photographs of *G. dentatus*: (1) dorsal aspect, (2) lateral aspect.

Etymology: the genus is named in reference to the genus *Glyptoscelis* Dejean, the Chilean species of which, *G. pulvinosus* (Blanchard), *G. dentatus* resembles in size, colour and elytral rugosity.

Diagnosis and Description: pygidium with incomplete, broad, shallow median furrow, the furrow flat (Fig. 10); profemur with large acute ventral tooth at midlength (Fig. 5); tibiae multicarinate, the carinae prominent but incomplete; tibiae strongly flared at apex; prothorax with distinct ocular lobes, lobes projecting ventrally and forming discontinuity with prosternum (Figs. 3, 6); prothorax, head and mandibles of male enlarged. Because the genus is monobasic, description of *G. dentatus* provides other specific structural details.

GLYPTOSCELOIDES DENTATUS

Askevold and Flowers, new species.

(Figs. 1- 17)

Type specimens: **Holotype** ♂ (Museo Nacional de Historia Natural, Santiago): "Hungarian Soil-Zool. Exp. CHILE: Prov. Coquimbo, Socos, 12.XI.1965 / Nr. P-B. 113 leg. Mahunka". Of the remaining 142 specimens examined, listed below, 113 are designated paratypes.

Type Locality: Socos, in the province of Coquimbo.

Etymology: The species is named in reference to the broad profemoral tooth.

DESCRIPTION:

Length, pronotum and elytra 4.50-6.00 mm (♂♂), 5.00-6.80 mm (♀♀); width at humeri 2.30-3.00 mm (♂♂), 2.80-3.60 mm (♀♀).

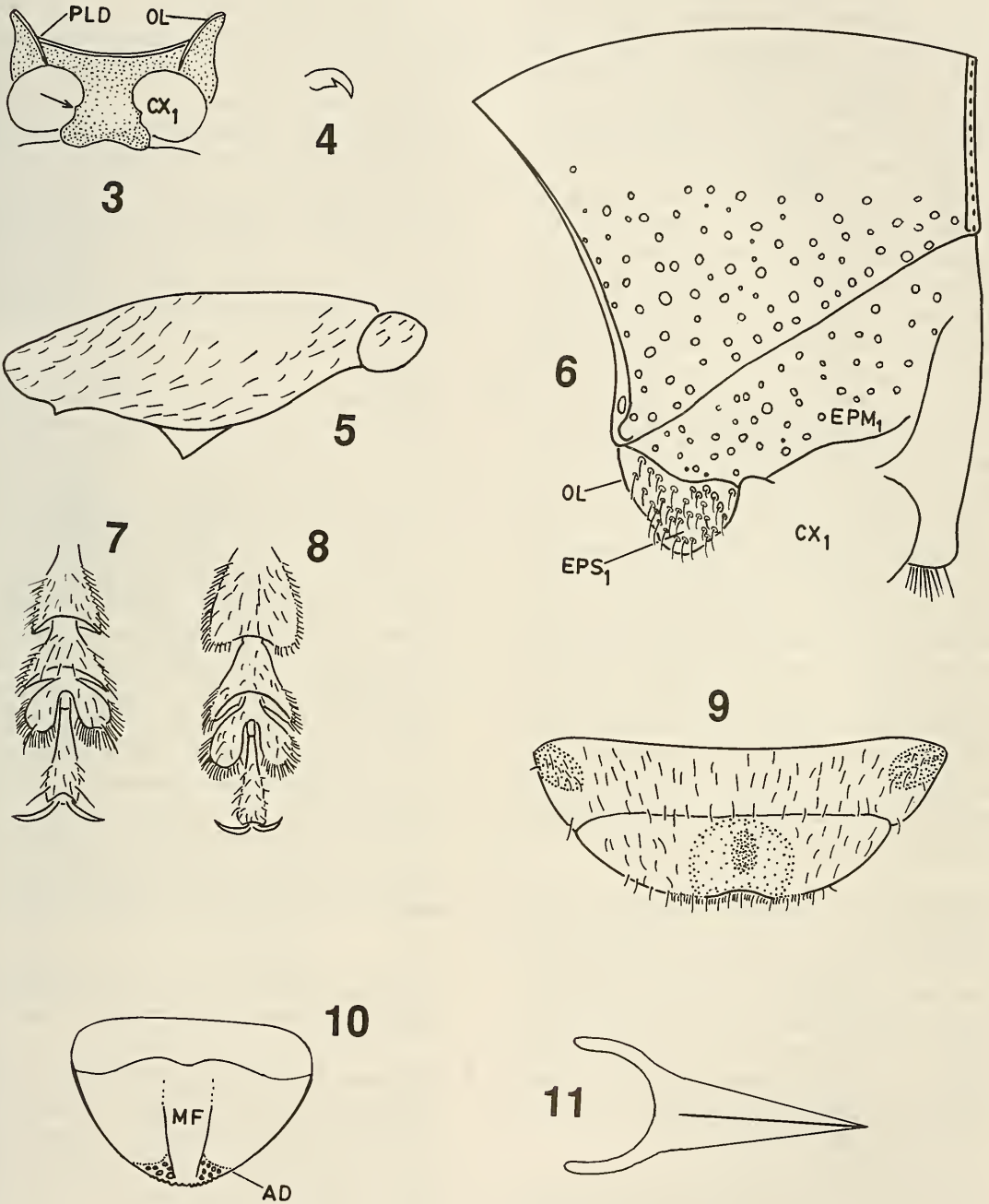
Body (Fig. 1,2) obovate; head, pronotum, elytra, underside bronzish, bronzish-black or metallic green; femora and tibiae entirely pale reddish to entirely bronzish-black or metallic green, tarsi dark with metallic sheen, in most specimens individual antennomeres, tarsomeres, femora and tibiae reddish at extreme base.

Head with labrum apically emarginate, with 4 or 5 subapical setae placed in emargination. Frons and clypeus densely, coarsely punctate, punctures confluent in some specimens to form longitudinal rugae laterally and on vertex; surface between punctures coarsely microreticulate; clypeus emarginate apically, with setae at outer angle of emargination; each puncture of frons with short white prostrate seta. Eyes elongate-oval, weakly emarginate next to antennal insertion.

Antennae with scape irregularly globose; pedicel subglobose, slightly shorter than scape, distinctly shorter than segment 3; segments 1-4 reddish brown, remaining segments blue-black, all segments with scattered white setae; 3-6 elongate, slightly wider at apices; 7-10 flattened, asymmetrical and subserrate, distinctly wider at apices, 7 and 8 broader than following segments; 11 narrower, spindle-shaped, apically conical.

Mouthparts. Maxillary palp with apical segment spindle-shaped. Mandibles large, robust (larger in ♂♂), laterally uniformly curved, apical teeth broad, slightly acute, with broad occlusal edge; with outer surface coarsely densely punctate and with long white prostrate setae.

Prothorax (Fig. 3,6) subquadrate, L/W = 0.62 - 0.76 (♂♂), 0.56 - 0.70 (♀♀); disc medially finely punctate, punctures separated by several



Figures 3-11: Structures of *G. dentatus*: (3) prosternum (arrow is point of measuring width); (4) claw; (5) left profemur; (6) prothorax of ♂; (7) left ♀ mesotarsus; (8) left ♂ mesotarsus; (9) apical two abdominal sternites of ♂; (10) pygidium of ♂; (11) tegmen of aedeagus. Abbreviations: AD = apical declivity; CX₁ = procoxal cavity; EPM₁ = proepimeron; EPS₁ = proepisternum; MF = median furrow; OL = ocular lobe; PLD prosternal-ocular lobe discontinuity.

times their diameters, laterally with mixture of punctulae and very coarse punctures, separated by approximately their own diameters; surface between punctures coarsely microreticulate to shagreened in some specimens, especially laterally, disc laterally somewhat swollen, obscuring lateral margin ($\sigma\sigma$), or not swollen ($\varphi\varphi$). Lateral margins with distinct uniform bead, evenly curved (dorsal view), directed strongly obliquely downward from posterior to anterior angles; anterior angle directed forward; basal margin with uniformly broad, flattened marginal bead, bead with single row of shallow punctures; each angle with single erect short seta in large puncture, anterolateral seta situated sublaterally on anterior bead. Proepisternum with anterior margin convex, forming ocular lobes, ventrally distinctly raised and discontinuous with anterior margin of prosternum; surface coarsely punctate, each puncture with long seta. Proepimeron glabrous, coarsely punctate, punctures separated by distance greater than their diameter, intervening surface microreticulate to shagreened. Prosternum (Fig. 3) anteriorly recessed for reception of base of head; anterior margin prominently raised as slender high margin, surface markedly excavate behind margin; entire surface with long slender erect setae; broad, 1.10 X diameter of procoxa, widened behind coxae; longer than either mesosternum or metasternum.

Mesosternum flat, broad, slightly narrower than prosternum, width = 0.80 X width of middle coxa, densely and moderately coarsely punctate, with moderately long prostrate white setae. **Metasternum** short, slightly swollen anterior to hind coxae, only slightly longer than mesosternum; densely and moderately coarsely punctate, with moderately long prostrate white setae.

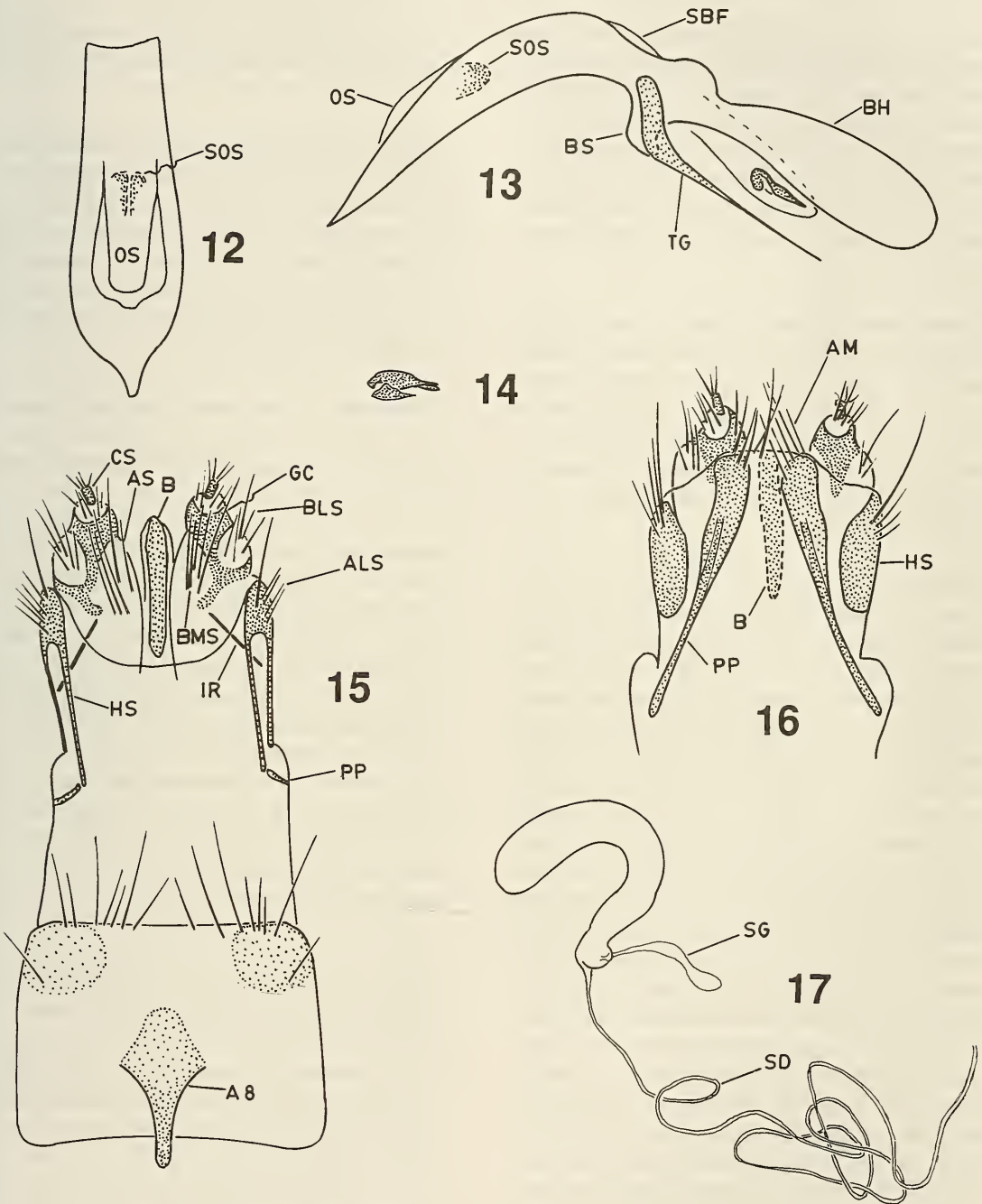
Legs (Fig. 4,5,7,8) robust, densely punctate and sparsely covered with long prostrate setae, surface alutaceous. Femora strongly swollen in middle, entirely pale reddish brown to entirely infuscate or with only extreme base reddish; profemora with large ventral tooth at mid-length (Fig. 5). Tibiae gradually widening toward apex and strongly expanded in apical

fourth; protibiae somewhat curved, wider in apical half; tibiae multicarinate, slightly to moderately sulcate between carinae, and with long setae arranged linearly in sulci, meso- and metatibiae somewhat flattened on anterior surface. Tarsi densely and uniformly pilose beneath; basal tarsomere of all legs expanded (especially $\sigma\sigma$), those of fore- and middle legs (Fig. 8) more strongly so (almost as wide as long) than those on hind legs; second tarsomere broadly triangular, with acute apicolateral angles; third tarsomere shorter and narrower than second, deeply bilobed, with lobes rather slender. Claws robust, with broad, basal, slightly acute tooth (Fig. 4).

Elytra coarsely, irregularly punctate on disc; sparsely to densely, coarsely transversely rugose, especially laterally and at midlength; most punctures separated by distance equal to or slightly greater than their diameters in most specimens; surface between punctures microreticulate, punctures toward apex becoming regular, forming striae; intervals convex to costate, with regular, single row of punctulae, punctulae in apical area bearing very short seta; humeri prominent, rounded; basal calli weakly developed; postbasal depression absent. Sides subparallel, slightly converging; apex conjointly broadly rounded. Basal margin moderately to markedly costate, costa obliterated toward scutellum. Epipleuron narrow, acutely raised, slanting inward, tapering evenly from base to apex, finely setose apically.

Scutellum triangular, base 1.40 X length; with punctures absent to several, fine to coarse.

Abdomen with basal segment slightly longer, remaining segments subequal in length; surface densely and moderately coarsely punctate, with moderately long prostrate white setae, surface between punctures finely alutaceous or microreticulate. Apical sternum with shallow subapical median depression in both sexes, apical margin shallowly emarginate medially in both sexes; male with median subapical area glabrous, microreticulate, impunctate, reddish brown (Fig. 9); female with similar but smaller median subapical area; 4th



Figures 12-17: Genitalia of *G. dentatus*: MALE: (12) apical view of median lobe; (13) lateral view of median lobe; (14) internal sac sclerite (dorsal view). FEMALE: (15) ventral aspect of segment VIII, hemisternites and gonocoxae; (16) dorsal aspect of hemisternites and gonocoxae; (17) spermatheca. Abbreviations: ALS apicolateral setae of hemisternites; AM = apicomedian setae of hemisternites; AS apical setae of gonocoxa; A8 = apodeme of sternum VIII; B = baculum; BH = basal hood; BLS = basolateral setae of gonocoxa; BMS = basomedian setae of gonocoxa; BS = basal spur; CS = coxostylus; GC = gonocoxae; HS = hemisternites of segment XI; IR = internal lateral rod; OS = orificial sclerite; PP = dorsal portion of hemisternites of segment XI; SBF = subbasal fenestra; SD = spermathecal duct (about half its length illustrated); SG = spermathecal gland; SOS = suborificial sclerites; TG = tegmen.

segment with broad lateral depression, extending onto 3rd segment in some specimens.

Pygidium (Fig. 10) with longitudinal median groove broad, shallow, flat, becoming obsolete on apical one-fourth; its lateral margin slightly acutely projecting inward; with subbasal bisinuate line, and subapical biarcuate line demarcating slight declivity, apical declivous area coarsely punctate, smooth between punctures; apical margin crenulate; lateral margin carinate.

Sexual dimorphism. Female like male except as follows: head smaller, mandibles smaller and less robust; pronotal disc laterally not so swollen, the lateral margin entirely visible from above; basal tarsomeres of all legs not expanded (as in Fig. 7); apical sternum medially punctate and microreticulate, not so deeply impressed.

Genitalia and associated structures. MALE. (Fig. 11-13) Median lobe (Fig. 13) in general shape typical of Eumolpinae; with long, lightly sclerotized basal hood, lacking distinct apodemes; with subbasal fenestra; with prominent basal spurs; tegmen robust, fused along midline (Fig. 11); internal sac with pair of slender suborificial sclerites (Fig. 12) and basal irregularly shaped sclerite complex (Fig. 14; apical when endophallus inflated); flagellum extremely long, rather abruptly thickened at base. **FEMALE.** (Fig. 15-17) **Sternum VIII** with short basal apodeme; sternum otherwise only with poorly sclerotized apicolateral area; apical margin with numerous sparse extremely long setae; **hemisternites** with cluster of apical setae; **paraprocts** separated into pair of slender dorsal rods with cluster of apicomedian setae; **baculum** distinct, apical, almost as long as gonoxa; gonocoxae large, with apical ring of setae, with subapical sclerotized cylinder and basolateral unsclerotized area, with cluster of 6-7 basolateral setae, with cluster of 6-7 basomedian setae; **coxostyli** distinct, with several distinct long setae. In addition to these structures that are normally found in the female external genitalia, there is also a pair of very slender, oblique, internal rods (Fig. 15); we do not know with what these are homolo-

gous and merely use the term internal rods for convenience. **Spermatheca** (Fig. 17) with elongate, transverse meshes; slightly constricted at ramus; spermathecal duct attached basally, very elongate, forming few loose irregular coils (only half illustrated).

Intraspecific variation. Specimens are metallic green or bronze; legs vary in color from entirely reddish to entirely metallic; punctures of the pronotum vary in size, and the intervening surface various from distinctly microreticulate to coarsely shagreened; punctures of the head vary in density and the extent to which they coalesce to form rugae.

Distribution. Specimens have been examined only from the Coquimbo Region, Chile. No specimens have been found collected outside of Chile.

Material Examined. Chile. Región de Coquimbo: Prov. Elqui: Depto. Ovalle, Tres Cruces EP Reed (CAS 3), 4-XII-37 EP Reed (CAS 1); Cuesta S. Cruz [may be Santa Cruz mineral, near Tres Cruces] 1938 Reed (USNM 2; CAS 2); La Serena 1.Nov.1957 LE Peña (CMNH 1); Coquimbo XI-61 (OHIO 2; ISAC 1); Vicuña 15.X.1983 L. Peña (ISAC 1), no date Reed leg. (USNM 4); S[an]. Isidro (CHIL 1); Dept. La Serena, Las Cardas Sept. Nov.1947 EP Reed (CAS 1), 3 December 1949 EP Reed (CAS 12). **Prov. Limari:** Tr[anque]. Recoleta, R. Hurtado 2.Nov. 1957 LE Peña (CMNH 1; ISAC 1); Socos 12.XI. 1965 Mahunka P-B Nr. 113 (ISAC 6; RWF 4; TMB 54; CHIL 3); Rio Guatulame 13-XI-1961 LE Peña (BMNH 1); Manquehua, Majada Blanca 1.64 (OHIO 5; ISAC 2; SMC 1); San P. de Quille, S.W. Punitaqui 15.Nov.1961 LE Peña (CMNH 2; ISAC 1). **Prov. not determined:** Incienso [= *Flourensia thurifera*] El Pepe 7-XI-44 (CHIL 1; CAS 1);

Additional specimens found in press, not seen by authors:

Prov. Elqui: Totoralillo 14.X.91 E Arias (CHIL 1); Las Cardas, 40 km S la Serena 4.XI.52 R Wagenknecht, sobre *Flourensia thurifera* ("incienso" (CHIL 22); 746 [handwritten Philippi label], 1089 Myochrous

flourensiae / Ph. 1209. Coq[uimbo]. [hand-written Philippi label] (CHIL 3). **Prov. Limarí:** Socos 9.XI.91 T Fichet (CHIL 1); El Divisadero (E Punitaqui) 23.XI.1971 G Rojas (CHIL 1). **Prov. Choapa:** Conchalí (N Los Vilos) 22.VIII.1984 G. Carrasco (CHIL 1).

Comparison with other genera.

Glyptosceloides was compared with various other Neotropical genera of Eumolpinae. *Eurysarcus* Lefèvre, *Vianeta* Bechyné and *Prionodera* Chevrolat bear considerable resemblance, but are evidently not congeneric. Few genera of Neotropical eumolpines have both enlarged mandibles and toothed profemora, therefore *Glyptosceloides* is unlikely to be confused with other genera.

Argoa. *Argoa* species compared were *A. rugulosa* Lefèvre and *A. tibialis* Chapuis. Of all Neotropical eumolpine genera known to us, *Glyptosceloides* appears most closely related to *Argoa*, with which it shares the following characters: 1) toothed profemora; 2) lateral rugosities on elytra; 3) incomplete median groove on pygidium; 4) sexual dimorphism in enlargement of hind basitarsus; 5) sexual dimorphism in shape of pronotum. *Glyptosceloides* can be distinguished from *Argoa* by the following combination of characters: 1) body shape obovate (oval in *Argoa*); 2) mandibles of males much larger than those of females (no sexual dimorphism in mandibles of *Argoa*); 3) apical half of antennae subserrate (submoniliform in *Argoa*).

Eurysarcus. Four species were compared with *G. dentatus*: *E. abioides* Lefèvre, *E. dejeani* Lefèvre, *E. foveicollis* Lefèvre and *E. rufinus* Lefèvre. They are similar to, in shape of the pronotum; proepisterna forming ocular lobes; markedly broadened basal pro- and mesotarsomere of males; enlarged mandibles of males; and broad and flat basal pronotal margin. They differ from *Glyptosceloides* in lack of profemoral tooth; pygidial furrow deeper and complete to the apical margin; elytra not to hardly transversely rugose, with indistinct to quite well developed costae laterally and on declivity; tibiae enlarging apically but not so markedly costate; basal pronotal margin not

punctate, surface laterally not shagreened between punctures; and larger in size.

Vianeta. Four species were compared with *G. dentatus*: *V. varians* Bechyné, *V. argentinensis* Bechyné, *V. uberaba* Bechyné and *V. podoxenus* Bechyné. They are similar to in the toothed profemur; proepisterna forming ocular lobes; raised anterior prosternal margin; and transversely rugose elytra. *Vianeta* differs in the complete and uniformly deep pygidial furrow; legs rufous in most specimens, basal tarsomeres not so expanded in males; mandibles not enlarged in males; tibiae not carinate nor sulcate nor widening toward the apex; profemur not so robust; and more elongate, slender body shape.

Prionodera. Four species were compared with *G. dentatus*: *P. bicolor* (Olivier), *P. lutea* Erichson, *P. kirschi* (Lefèvre) and *P. marshalli* Lefèvre. This genus shares with *Glyptosceloides* the toothed profemur and raised anterior margin of the prosternum. *Prionodera* differs in the complete lack of median furrow of pygidium; proepisterna not forming ocular lobes; pronotum, head and mandibles not enlarged in males; basal tarsomere only weakly expanded in males, distinctly longer than wide; and larger size and more elongate body shape.

Among Chilean eumolpine genera, only *Dictyneis* Baly (of authors) has toothed femora; however, this genus belongs to the Myochroites and is distinct in pygidial shape, toothed lateral pronotal margin, vestiture (scales) of the prothorax and elytra, tuberculate elytra and all femora toothed. Like *Glyptosceloides dentatus*, one species of *Glyptoscelis* in Chile has similarly transversely rugose elytra; *Glyptoscelis* species, however, have scales and setae covering the entire beetle, lack the femoral tooth, and a less well developed (to almost absent) pygidial furrow.

Placement of *Glyptosceloides* within Eumolpinae.

Reid (1993:61) noted that "at present it is impossible to define any suprageneric group of the Eumolpinae to include all of its currently

included members." Similarly, it is not possible to ascertain which genera one should examine to determine the most appropriate position of a new genus within the existing classification; even some of the most distinctive groups within the Eumolpinae are very heterogenous assemblages (Askevold & LeSage 1990). Based on the classification of Chapuis (1874; still the only one for the Neotropical fauna) and which is used by Seeno and Wilcox (1982), *Glyptosceloides* belongs in the section Edusites of the tribe Eumolpini.

The characters of Edusites are proepisterna forming ocular lobes, and elytra laterally rugose. The only New World members of this section are *Argoa* Lefèvre, *Auranius* Jacoby, and *Tymnes* Chapuis. *Argoa*, compared with *Glyptosceloides* above, is unlikely to be confused with it. Two other New World edusine genera, *Auranius* and *Tymnes*, are readily distinguishable from *Glyptosceloides*. *Auranius* is monotypic; *A. robustus* Jacoby is a large weevil mimic from Brazil. *Tymnes* is a northern genus, extending south only to Guatemala; species of this genus lack both toothed profemora and sexual dimorphism of the head. Based on comparison with these genera, we are confident that *Glyptosceloides* belongs in this assemblage of taxa and that it is also distinct from them.

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